5/20 (5)

**Christine Joyce**

**From:** Steve Ledoux
**Sent:** Wednesday, April 10, 2013 1:21 PM
**To:** Christine Joyce
**Subject:** FW: Sewer Expansion Policy
**Attachments:** Board of Selectmen Sewer Presentation Outline 1.doc

Doug is looking to do 3 one hour presentations discussions on sewer policy. One each in May, June and July. Let's agenda it

Steven L Ledoux
Town Manager
472 Main Street
Acton, MA 01720
Telephone (978) 929-6611



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**From:** Doug Halley
**Sent:** Wednesday, April 10, 2013 1:18 PM
**To:** Steve Ledoux
**Cc:** Stephen Barrett; Brian McMullen
**Subject:** Sewer Expansion Policy

Steve,

Last July I wrote to you noting that the development of a sewer expansion policy scored high on the Selectmen's 2012 long term goals. At that time the Health Department began the planning process for presenting the required information which would inform the Board of Selectmen/Sewer Commissioners as they developed a policy. In developing that planning process, the department recognized that none of the current Selectmen were serving during the planning, construction and implementation of the sewer system and therefore believed that an overall primer on the sewer system would be required.

Due to the considerable amount of material that needs to be discussed the department believes that the primer needs to be split into three presentations. The first presentation would be to review the decisions that determined the sewer service area, the location to discharge treated wastewater, the type of treatment required, the calculation of betterments and the logistics of bonding.

The second presentation would be to review the current status of the sewer system. This would also include how many properties have connected, how many privilege fees have been granted, what is the current sewer O & M rate, what is the status of betterment receipts and bond payments, how is the amount of outstanding debt being handled and what is the current capacity of the sewer system.

The third presentation would be to examine the future of the sewer system. This would include funding of future capital expenses, the expiration of outstanding bonds, the Comprehensive Water Resources Management Plan's recommendation of areas that have a need for sewers, priorities for expansion of sewers, review of scenarios for the charging of privilege fees and the placement of future betterments.

With this information the Selectmen/Sewer Commissioner would be able to consider recommended policies for expanding sewers. Each presentation would take about an hour to present and answer questions. Based on that time commitment the department would recommend scheduling an hour for each presentation at the Sewer Commissioner/Selectmen meetings for three consecutive months in May, June and July of this year. This will be at a time outside the budget process when hopefully they will be less busy, all new Selectmen would be in place from the elections in March and it would give them plenty of time to consider a policy prior to any additional changes in the Board make-up.

Recently the need for a policy has increased as two properties adjacent to the sewer system are looking at the feasibility of connection to the sewer. The first is the Water District's new filtration plant on High Street which will potentially discharge 3,000 gallons per day and the second is the Parker Village Apartments which is considering abandoning their on-site treatment plant and connecting to the sewer service. Their potential discharge per day would be over 13,000.

I have attached an outline of the items to be addressed at the first meeting. Please let me know when this can be placed on the Board of Selectmen's agenda.

Doug

# Board of Selectmen Presentation

## The Why, Where and How Sewers Were Built

I. The History of Sewer Proposals
   a. 1945 – Board of Health reported an immediate need for a sewerage system
   b. 1966 – ATM votes to take no action on sewers
      i. Adams Street Land Purchased as a contingency
   c. 1986 – ATM approves sewers for Kelly's Corner & South Acton Center
   d. 1989 – Economy and phosphorous restrictions for the Assabet River put sewer project on hold
   e. 1986-1999 – Several attempts are made to regionalize sewers with the Town of Maynard and one attempt with Concord
   f. 1993 – Mill Corner sewer option for South Acton Center developed
      i. Subsurface discharge considered for the first time

II. Middle Fort Pond Brook Sewer Proposal
   a. 1995 – Revisions to Title 5 (On-site wastewater requirements) have widespread impact on homeowner's ability to manage their wastewater systems.
   b. 1996 – Sewer Action Committee Formed
   c. 1997-1999 – Middle Fort Pond Brook Sewer System Approved by ATM.

III. How was the sewer service area determined?
   a. South Acton Center as determined by 1985 SEA study
   b. Kelly's Corner as determined by 1987 SEA study
   c. Central School Campus as determined by DEP Consent Decree
   d. Additional infill as the discharge limitation would allow
      i. Title 5 flows or water usage

IV. How was the discharge choice made?
   a. Discharge Moratorium for Assabet River ruled out water surface discharge
   b. Adam's Street land only alternative
      i. It was in the right location
      ii. It had appropriate soils
      iii. It was bought for wastewater purposes
   c. Hydrogeologic study evaluated capacity
      i. 250,000 gallons per day set as conservative limit
      ii. Initial collection area based on average Title 5 flows
      iii. Collection area expanded with the acceptance of an average water use standard.

V. What determined the type of wastewater treatment?
   a. Location adjacent to Assabet River required a phosphorus limitation
   b. Sequencing Batch Reactors selected
      i. Chambers allowed both aerobic and anoxic mixing
      ii. Self contained environment allowed the greatest control over odors
      iii. SCADA system allowed external and precise control of processing
   c. Noise and odor testing completed before operation to ensure plant had no impact on residents.

VI. How were betterments arrived at?

a. MGL Chapter 80 establishes methods of assessment
    i. Frontage
        1. Service area did not have consistent frontage
    ii. Area
        1. Service area did not have consistent area
    iii. Use
        1. Service area was well served by use comparisons

b. Betterments based on classes of use
    i. Residential
    ii. Multi-Family
    iii. Commercial
    iv. Industrial
    v. Non-Profit

c. Government use exempt from betterments
    i. Construction cost can be captured at connection
    ii. Fee based on avoided cost

d. Title design flows selected to compare the five types of use
    i. Residential
        1. 300 gpd
            a. Based on average number of bedrooms in service area
    ii. Multi-family
        1. 2/3 of residential gpd
            a. Based on a 2 bedroom or less standard
    iii. Commercial
        1. 75 gpd/1,000 sq ft floor area
            a. Based on build out calculation
    iv. Industrial
        1. 75 gpd/1,000 sq ft floor area
            a. Based on build out calculation
    v. Non-Profit
        1. gpd shown on existing wastewater disposal permit

e. Sewer Betterment Units (SBUs) calculated for each use
    i. Residential = 560.66 SBUs
    ii. Multi-Family = 279.09 SBUs
    iii. Commercial = 203.16 SBUs
    iv. Industrial = 307.69 SBUs
    v. Non-Profit = 33.29 SBUs

f. Total Project Costs of $25,133,050 assigned in accordance with Town Bylaw
    i. School avoided costs = $5,500,000.00
    ii. Town avoided costs = $26,600.00
    iii. Housing Authority avoided costs = $65,866.63
    iv. Town contribution = $1,336,600.00
    v. Future Capacity Assignment = $1,166,200.00

g. Betterment based on Total Project Cost minus avoided costs, contribution and other assignments
    i. Betterment Assignment = $17,037,783.37
        1. divided by 1,383.89 SBUs = $12,311.52
        2. 560.66 Residential SBUs = $6,902,574.24
        3. 279.09 Multi-Family SBUs = $3,436,020.93
        4. 203.16 Commercial SBUs = $2,501,207.54
        5. 307.69 Industrial SBUs = $3,788,130.28
        6. 33.29 Non-Profit SBUs = $409,850.38

VII. How was the Sewer Construction Financed?
a. State Revolving Fund
    i. Low or no interest loan
    ii. 30 year term
    iii. Annual payment of principal
    iv. Bi-Annual payment of interest
    v. Loan payments start with first drawdown
    vi. Covers only eligible costs
    vii. $24,020,699.41 Borrowed
b. Municipal Borrowing
    i. Market Rate
    ii. 20 year term
    iii. $1,112,350.59 Borrowed
c. Sweeney/South Acton Gift
    i. Used for cash flow as project progressed
    ii. Gift replenished as loans became available

## Christine Joyce

**From:** Steve Ledoux
**Sent:** Thursday, April 04, 2013 11:58 AM
**To:** Sharon Mercurio
**Cc:** Dean Charter; Board of Selectmen
**Subject:** Re: Senior Center

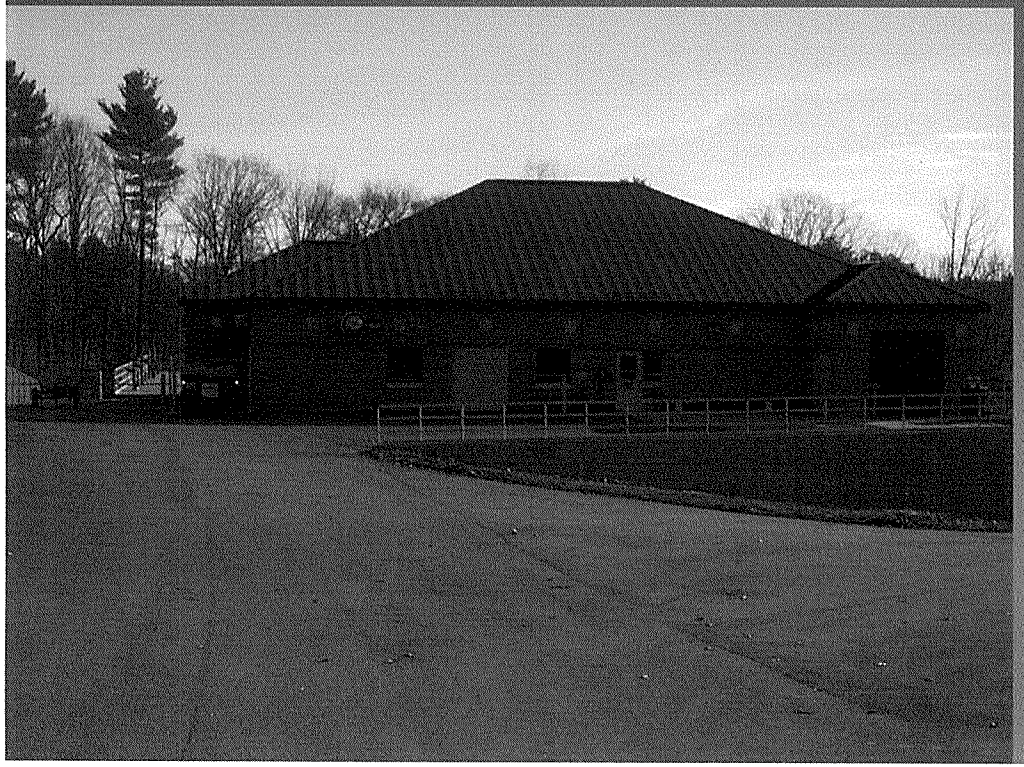
This will have to wait until May for BoS

Sent from my iPhone. Please pardon brevity or typos.

On Apr 4, 2013, at 11:48 AM, "Sharon Mercurio" <smercurio@acton-ma.gov> wrote:

> Hi,
> I know I have spoken to both of you regarding the results of the Space Needs study and my concerns for the plans of the Senior Center. I am requesting that the Senior Center be re-visited by the architects to explore an inexpensive, interior renovation to address the on going safety and security issues as part of the next phase of their work. I do feel it is important to address the relocation of office space as soon as possible.
>
> I would also like to be on the agenda for a Selectmen's Meeting to explore how to move forward with a more appropriate building. The issues which were identified as problematic over five years continue and I would appreciate some guidance as to how you would like me to proceed.
>
> Thank you,
> Sharon

# The Why, Where and How Sewers Were Built



May 20, 2013
Board of Selectmen
Meeting

Doug Halley, Health Director
Steve Barrett, Finance Director
Brian McMullen, Assistant Finance Director

# Three Part Series

- What was done?
  - How were sewers constructed
  - How were costs allocated
- What are we doing?
  - How are sewers operating
  - How are costs being offset
- What do we need to do?
  - How should sewer capacity be used
  - How should costs work towards sustainability

# History of Sewer Proposals?

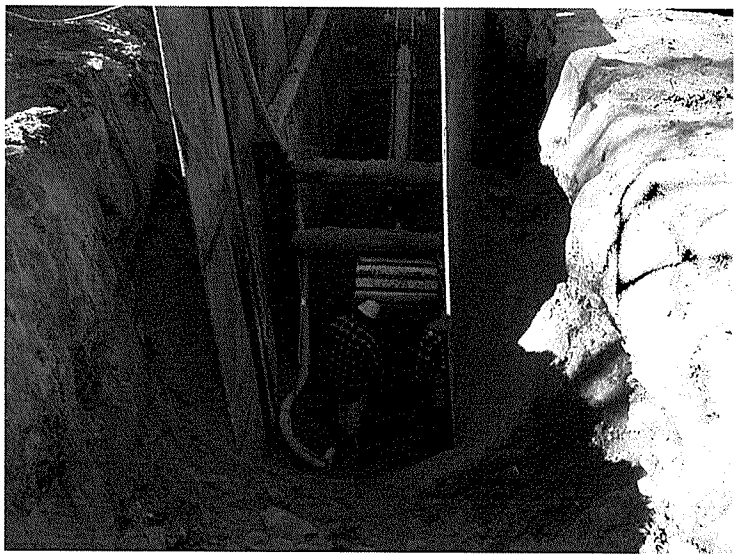
- 1945 – Board of Health reported an immediate need for a sewerage system
- 1966 – ATM votes to take no action on sewers
  - Adams Street Land Purchased as a contingency
- 1986 – ATM approves sewers for Kelly's Corner & South Acton Center
- 1989 – Economy and phosphorous restrictions for the Assabet River put sewer project on hold

# Other Alternative Sewer Proposals?

- 1986-1999 – Several attempts are made to regionalize sewers with the Town of Maynard and one attempt with Concord
- 1993 – Mill Corner sewer option for South Acton Center developed
  - Subsurface discharge considered for the first time

# Middle Fort Pond Brook Sewer Proposal?

- 1995 – Revisions to Title 5 (On-site wastewater requirements) have widespread impact on homeowner's ability to manage their wastewater systems.
- 1996 – Sewer Action Committee Formed
- 1997-1999 – Middle Fort Pond Brook Sewer System Approved by ATM.
- Construction began in April of 2000 and completed in February of 2002



# How Was The Sewer Service Area Determined?

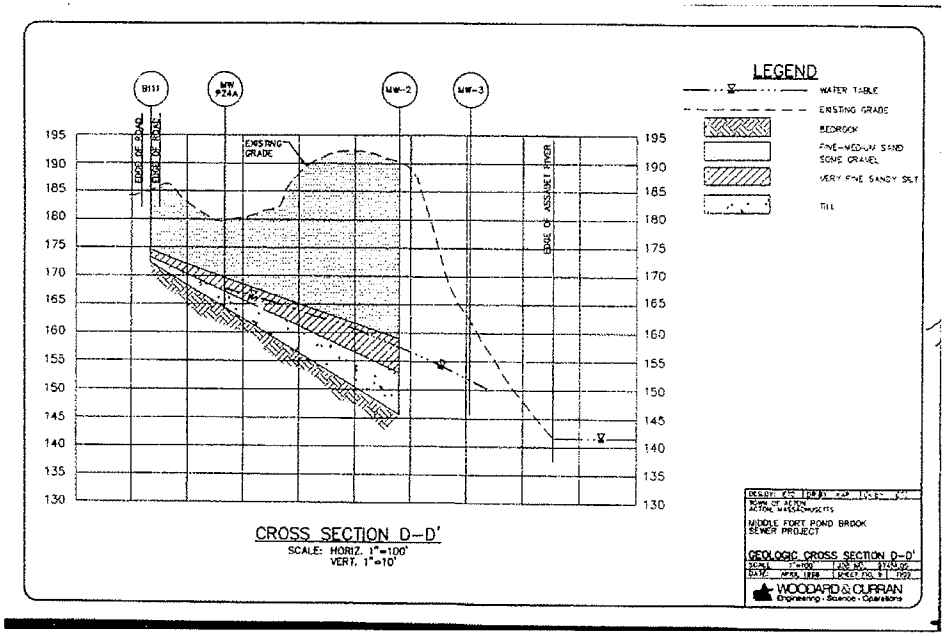
- South Acton Center as determined by 1985 SEA study
- Kelly's Corner as determined by 1987 SEA study
- Central School Campus as determined by DEP Consent Decree
- Additional infill as the discharge limitation would allow
  - Title 5 flows or water usage

# How Was The Discharge Choice Made?

- Discharge Moratorium for Assabet River ruled out water surface discharge
- Adam's Street land only alternative
  - It was in the right location
  - It had appropriate soils
  - It was bought for wastewater purposes

# How Was the Capacity Identified?

- Hydrogeologic study evaluated capacity
  - 300,000 capacity identified but negotiations with DEP set 250,000 gallons per day as conservative limit
  - Initial collection area based on average Title 5 flows
    - Doubling of actual water usage
  - Collection area expanded with the acceptance of an average water use standard.

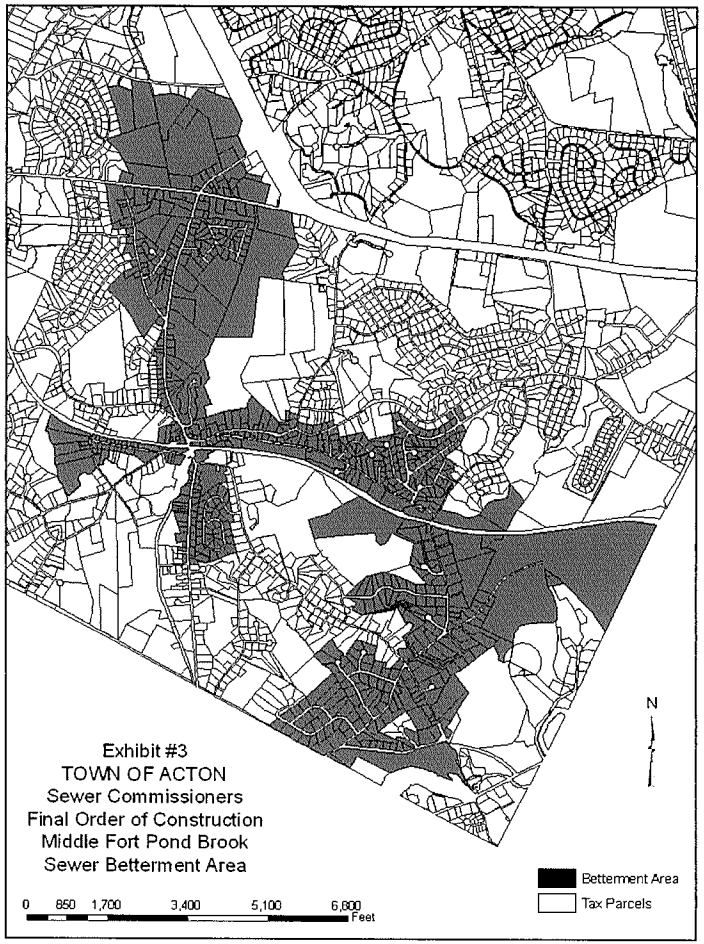


# What determined the type of wastewater treatment?

- Location adjacent to Assabet River required a phosphorus limitation
- Sequencing Batch Reactors selected
  - Chambers allowed both aerobic and anoxic mixing
  - Self contained environment allowed the greatest control over odors
  - SCADA system allowed external and precise control of processing
- Noise and odor testing completed before operation to ensure plant had no impact on residents.

# How Were Betterments Arrived At?

- MGL Chapter 80 establishes methods of assessment
  - Frontage
    - Service area did not have consistent frontage
  - Area
    - Service area did not have consistent area
  - Use
    - Service area was well served by use comparisons



# How Were Classes of Use Identified?

- Betterments based on classes of use
  - Residential
  - Multi-Family
  - Commercial
  - Industrial
  - Non-Profit

# What About Government Uses?

- Government uses exempt from betterments
  - Construction cost can be captured at connection
  - Fee based on avoided cost
- Government Uses included
  - Town
  - Local Schools
  - Regional Schools
  - Housing Authority
  - Water District

# How Were Wastewater Flows Defined?

- Title 5 Design Flows Selected
  - Residential
    - 300 gpd
      - Based on average number of bedrooms in service area
    - Multi-family
      - 2/3 of residential gpd
        - Based on a 2 bedroom or less standard

# What About Non-Residential Uses?

- Commercial
  - 75 gpd/1,000 sq ft floor area
    - Based on build out calculation
- Industrial
  - 75 gpd/1,000 sq ft floor area
    - Based on build out calculation
- Non-Profit
  - gpd shown on existing wastewater disposal permit

# How Does Treatment Plant Capacity Translate to Betterment Capacity?

- Capacity of Treatment Plant set at 250,000 actual gallons per day
- Betterment Units based on Title 5 gallons per day
  - Which is defined as twice the actual gallons per day
- Service area can't exceed 500,000 Title 5 gallons per day (250,000 x 2)

# How Many Betterment Units can be serviced by that capacity?

- Capacity
  - 500,000 Title 5 gallons per day
- Betterment Unit
  - 300 Title 5 gallons per day
- Allowable Betterment Units
  - 500,000/300 = 1,666.67

# What are the allowable betterment units per use?

- Sewer Betterment Units (SBUs) calculated for each use
  - Residential = 560.66 SBUs
  - Multi-Family = 279.09 SBUs
  - Commercial = 203.16 SBUs
  - Industrial = 307.69 SBUs
  - Non-Profit = 33.29 SBUs
  - Town = 2.16 SBUs
  - Housing Authority = 5.35 SBUs
  - Schools = 275.27 SBUs

  Total = 1,666.67 SBUs

# How Were Project Costs Assigned?

- Total Project Costs of $25,133,050 assigned in accordance with Town Bylaw
  - School avoided costs = $5,500,000.00
  - Town avoided costs = $26,600.00
  - Housing Authority avoided costs = $65,866.63
  - Town contribution = $1,336,600.00
  - Future Capacity Assignment (Supersizing) = $1,166,200.00
  - Residential, Commercial, Industrial = $17,037,783.37

Total = $25,133,050.00

# What Were the Betterment Costs per Use?

- Betterment based on Total Project Cost minus avoided costs, contribution and other assignments
  - Betterment Assignment = $17,037,783.37

    divided by 1,383.89 SBUs = $12,311.52
    - 560.66 Residential SBUs = $6,902,574.24
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# How Was The Sewer Construction Funded?

- State Revolving Fund
  - Low or no interest loan
  - 30 year term
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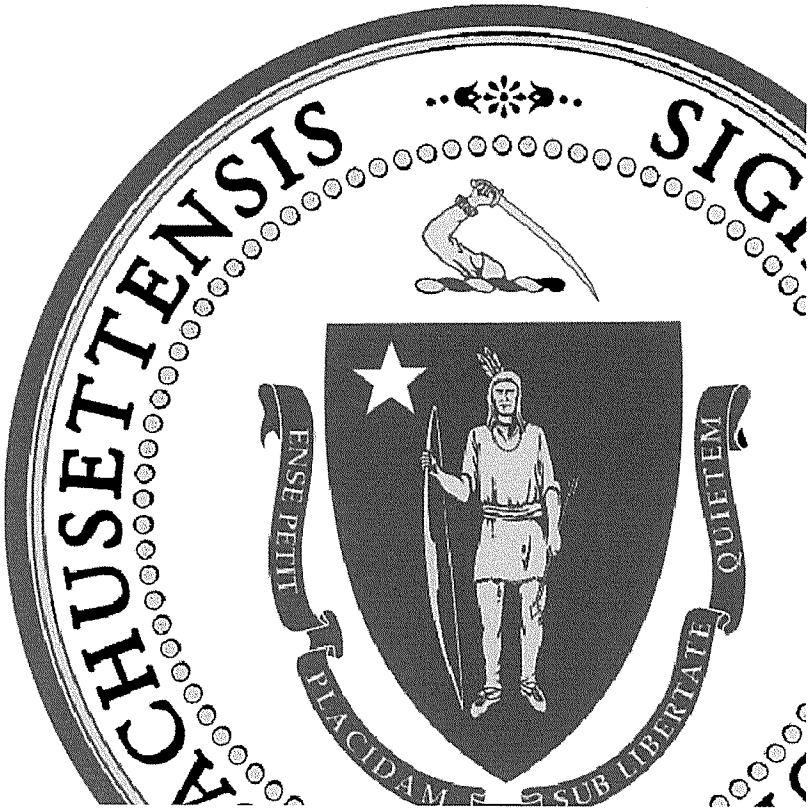

# What Other Borrowing Was Required?

- Not All Costs Covered By SRF
  - Design
  - Archaeology
- Municipal Borrowing
  - Market Rate
  - 20 year term
  - $1,112,350.59 Borrowed

# How Was Cash Flow Managed?

- Sweeney/South Acton Gift
  - Used for cash flow as project progressed
  - Gift replenished as loans became available
- Pre-Betterments/Estimate Betterments
  - Issued in 2000
  - Equal to ½ of Financial Commitment

# Where was the Authority Given?

- Sewer Assessment Bylaw D10
  - Allocates costs
  - Identifies Uniform Unit Method
  - Addresses
    - User fees for land not subject to assessment
    - Assessment rates
    - Sewer Privilege Fee
    - Annual User Fee

# Next Presentation?

- Permit Capacity Increase
- Powdermill Plaza expansion
- W. R. Grace settlement
- Status of Supersizing/Privilege Fees
- Prepayments, debt allocation and cash flow
- Connected or not connected
- CWRMP